

CLAIMS

Having thus described the aforementioned invention, I claim:

1 1. A notification system for monitoring changes in air flow channeled
2 between a CPAP generator unit and a mask adapted to supply positive
3 airway pressure to a patient during treatment for a sleep disorder,
4 comprising:

5 a sensor for monitoring air flow channeled to the mask adapted to
6 supply positive airway pressure to the patient, said sensor detects a change
7 in air flow channeled to the mask, said sensor having means for generating
8 a detection signal upon detection of the change in air flow;

9 a controller unit in communication with said sensor, said controller
10 unit having means for comparing said detection signal with a preselected
11 flow rate for delivery of air flow to the mask, said controller unit having
12 means for issuing an alert signal upon said means for comparing identifying
13 said detection signal being other than said preselected flow rate;

14 a transmitter means in communication with said controller unit, said
15 transmitter means transmits an alarm signal upon receipt of said alert
16 signal from said controller unit; and

17 an alarm means for issuance of a stimulus directed to the patient,
18 said stimulus having sufficient intensity to alert the patient upon
19 transmission of said alarm signal by said transmitter means;

20 whereby said stimulus alerts the patient of the change in air flow
21 being other than said preselected flow rate, thereby indicating the mask
22 requires adjustment for supply at the preselected flow rate of positive airway
23 pressure to the patient.

1 2. The notification system of Claim 1 further comprising a second sensor
2 for measuring pressure in the air flow, said pressure sensor is positioned
3 within the air flow transmitted to the mask, said pressure sensor detects a
4 change in pressure for air flow channeled to the mask, said pressure sensor
5 generates a pressure detection signal upon detection of the change in
6 pressure channeled to the mask and having means for transmitting said
7 pressure detection signal to said controller unit.

1 3. The notification system of Claim 2 wherein said controller unit
2 including a microprocessor having circuitry functional as said means for
3 comparing for determination whether said detection signal is within said
4 preselected flow rate, said controller unit issues said alert signal upon
5 verification said detection signal is an alternate flow rate not within said
6 preselected flow rate; and

7 said microprocessor further including means for analysis for
8 determining said pressure detection signal is within a preselected pressure

9 range, said controller unit issues said alert signal upon verification said
10 pressure detection signal is not within said preselected pressure range.

1 4. The notification system of Claim 1 wherein said alarm means
2 including a device having alarm generation means therein, said alarm
3 generation means is selected from the group consisting of a vibration device
4 releasably disposed on the patient's torso, a vibration device releasably
5 attachable on the patient's extremity, an audio device movably positionable
6 proximal of the patient, and an audio device removably attachable to the
7 patient's head.

1 5. The notification system of Claim 1 wherein said transmitter means
2 includes a radio frequency transmitter for transmission of said alarm signal
3 over a sufficient distance for receipt by said alarm means having a radio
4 frequency receiver therein.

1 6. The notification system of Claim 3 further comprising a timing circuit
2 in electrical communication with said controller unit microprocessor, said
3 timing circuit provides control of a frequency of repetitive analyses
4 accomplished by said microprocessor means for comparing, thereby
5 providing control of the frequency of generation of said alert signal

6 generated by said controller unit.

1 7. A notification system for monitoring changes in air flow channeled
2 from a CPAP generator unit to a mask adapted to supply positive airway
3 pressure to a patient during treatment for a sleep disorder, comprising:

4 a sensor having means for monitoring for air pressure in air flow
5 channeled to the mask, said sensor detects air pressure during operation of
6 the CPAP generator unit and issues a pressure detection signal upon
7 detection of air pressure other than a preselected range of air pressure in air
8 flow channeled to the mask;

9 a controller unit in communication with said sensor, said controller
10 unit generates an alert signal upon analysis of said pressure detection
11 signal from said sensor;

12 a transmitter means in communication with said controller unit, said
13 transmitter means transmits an alarm signal upon receipt of said alert
14 signal from said controller unit; and

15 an alarm means for issuance of a stimulus of sufficient intensity
16 directed to the patient, said stimulus generated upon transmission of said
17 alarm signal by said transmitter means;

18 whereby said stimulus is directed to alert the patient of said change in
19 air pressure being other than said preselected range of air pressure, thereby

20 indicating the mask requires adjustment for supply of positive airway
21 pressure to the patient's airway.

1 8. The notification system of Claim 7 wherein said sensor is calibrated
2 for detection of air pressure greater than said preselected range of air
3 pressure.

1 9. The notification system of Claim 7 wherein said sensor is calibrated
2 for detection of air pressure lower than said preselected range of air
3 pressure.

1 10. The notification system of Claim 7 wherein said alarm means
2 including a device having alarm generation means therein, said alarm
3 generation means is selected from the group consisting of a vibration device
4 releasably disposed on the patient's torso, a vibration device releasably
5 attachable on the patient's extremity, an audio device movably positionable
6 proximal of the patient, and an audio device removably attachable to the
7 patient's head.

1 11. The notification system of Claim 7 wherein said controller unit
2 including a microprocessor having means for comparing said pressure

3 detection signal with said preselected flow rate, said controller unit
4 microprocessor generates said alert signal upon verification said pressure
5 detection signal is other than said preselected range of air pressure.

1 12. The notification system of Claim 11 wherein said controller unit
2 microprocessor further including a timing circuit in electrical
3 communication with said controller unit microprocessor, said timing circuit
4 provides control of a frequency of repetitive analyses accomplished by said
5 microprocessor means for comparing, thereby providing control of the
6 frequency of generation of said alert signal generated by said controller unit.

1 13. A method for notification of changes in air flow channeled from a
2 CPAP generator unit to a mask adapted to supply positive airway pressure
3 to a patient during treatment for a sleep disorder, comprising the steps of:
4 monitoring air channeled to the mask secured to the patient's face,
5 said monitoring step including positioning a sensor means in the air flow
6 channeled to the mask, said step of monitoring further including detecting
7 an air flow rate for air flow channeled to the mask resulting in said sensor
8 means issuing a detection signal upon detection of said air flow rate being
9 other than a preselected range for air flow channeled to the mask;
10 generating an alert signal by a controller unit in communication with

11 said sensor means, said controller unit including receiving said detection
12 signal from said step of monitoring and comparing said detection signal with
13 the preselected range for air flow, whereby said alert signal is generated by
14 said controller unit upon said step of comparing determining said detection
15 signal is not within said preselected range for air flow;

16 transmitting said alert signal generated by said step of generating to
17 an alarm means proximal of the patient, said step of transmitting including
18 remote transmission of said alert signal proximally to the patient; and

19 alerting the patient by generating a stimulus by said alarm means
20 having sufficient intensity to wake the patient, said step of alerting
21 including directing said stimulus to the patient each time said step of
22 generating produces said alert signal.

1 14. The method for notification of Claim 13 wherein said step of
2 monitoring includes calibrating said sensor means for detecting an air flow
3 rate other than said preselected range for air flow to the mask, thereby
4 indicating the mask is not securely positioned against the patient's face to
5 supply positive airway pressure to the patient.

1 15. The method for notification of Claim 13 wherein said step of
2 monitoring includes calibrating said sensor means for detecting an air

3 pressure other than said preselected range for air flow to the mask, thereby
4 indicating the mask is not securely positioned against the patient's face to
5 supply positive airway pressure to the patient.

1 16. The method for notification of Claim 13 wherein said step of
2 transmitting includes a transmitter means in communication with said
3 controller unit, said step of transmitting remotely transmits said alert
4 signal to said alarm means, whereby upon receipt of said transmitted alert
5 signal by said alarm means, said stimulus is directed to the patient in
6 sufficient intensity to notify the patient for the patient's adjustment of the
7 mask for supply of positive airway pressure to the patient.

1 17. The method for notification of Claim 13 wherein said step of alerting
2 the patient includes providing said alarm means having alarm generation
3 means therein, said alarm generation means being selected from the group
4 consisting of a vibration device releasably disposed on the patient's torso, a
5 vibration device releasably attachable on the patient's extremity, an audio
6 device movably positionable proximal of the patient, and an audio device
7 removably attachable to the patient's head.

1 18. A method for notification of changes in air flow channeled from a

2 CPAP generator unit to a mask adapted to supply positive airway pressure
3 to a patient during treatment for a sleep disorder, comprising the steps of:

4 monitoring air within the mask secured to the patient's face, said
5 monitoring step including positioning a sensor means in the air flow
6 directed to the patient's airway, said step of monitoring further including
7 detecting an air flow rate within the mask for air flow directed to the
8 patient's airway resulting in said sensor means issuing a detection signal
9 upon detection of said air flow rate being other than a preselected range for
10 air flow in the mask;

11 generating an alert signal by a controller unit in communication with
12 said sensor means, said controller unit including receiving said detection
13 signal from said step of monitoring and comparing said detection signal with
14 the preselected range for air flow, whereby said alert signal is generated by
15 said controller unit upon said step of comparing determining said detection
16 signal is not within said preselected range for air flow;

17 transmitting said alert signal generated by said step of generating to
18 an alarm means proximal of the patient, said step of transmitting including
19 remote transmission of said alert signal proximally to the patient; and

20 alerting the patient by generating a stimulus by said alarm means
21 having sufficient intensity to wake the patient, said step of alerting
22 including directing said stimulus to the patient each time said step of

23 generating produces said alert signal.

1 19. The method for notification of Claim 18 wherein said step of
2 monitoring includes calibrating said sensor means for detecting an air flow
3 rate other than said preselected range for air flow in the mask, thereby
4 indicating the mask is not securely positioned against the patient's face to
supply positive airway pressure to the patient.

1 20. The method for notification of Claim 18 wherein said step of
2 monitoring includes calibrating said sensor means for detecting an air
3 pressure other than said preselected range for air flow in the mask, thereby
4 indicating the mask is not securely positioned against the patient's face to
5 supply positive airway pressure to the patient.

1 21. The method for notification of Claim 18 wherein said step of
2 transmitting includes a transmitter means in communication with said
3 controller unit, said step of transmitting remotely transmits said alert
4 signal to said alarm means, whereby upon receipt of said transmitted alert
5 signal by said alarm means, said stimulus is directed to the patient in
6 sufficient intensity to notify the patient for the patient's adjustment of the
7 mask for supply of positive airway pressure to the patient.

1 22. The method for notification of Claim 18 wherein said step of alerting
2 the patient includes providing said alarm means having alarm generation
3 means therein, said alarm generation means being selected from the group
4 consisting of a vibration device releasably disposed on the patient's torso, a
5 vibration device releasably attachable on the patient's extremity, an audio
6 device movably positionable proximal of the patient, and an audio device
7 removably attachable to the patient's head.